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1. (Currently Amended) A semiconductor device comprising:

a contact plug formed within an interlayer dielectric film provided on a semiconductor region, and is electrically connected to the semiconductor region;

a first oxygen barrier layer formed on the interlayer dielectric film to be in contact with the contact plug, the first oxygen barrier layer has a conducting property and prevents the diffusion of oxygen;

a second oxygen barrier layer formed in contact with the side surfaces of the first oxygen barrier layer, the second oxygen barrier layer has an insulating property and prevents the diffusion of oxygen;

a lower electrode formed ~~in contact with~~ to cover the top surface of the first oxygen barrier layer and the outer portions of the side surfaces of the second oxygen barrier layer;

a capacitive insulating film formed ~~in contact with~~ on the lower electrode; and

an upper electrode formed ~~in contact with~~ on the capacitive insulating film.

2. (Original) The device of claim 1, wherein the first oxygen barrier layer includes a lower layer and an upper layer, the lower layer contains a conductive nitride and is in contact with the contact plug, and the upper layer contains a conductive oxide and is formed on the lower layer.

3. (Original) The device of claim 2, wherein the conductive nitride includes at least one material selected from a group consisting titanium nitride, titanium aluminum nitride, titanium silicon nitride, tantalum nitride, tantalum aluminum nitride and tantalum silicon nitride.

4. (Original) The device of claim 2, wherein the second oxygen barrier layer is in contact with the side surfaces of the lower layer.

5. (Original) The device of claim 1, wherein the thickness of the second oxygen barrier layer is between 5 nm and 50 nm inclusively.

6. (Original) The device of claim 1, wherein the second oxygen barrier layer is composed of an oxide.

7. (Original) The device of claim 1, wherein the second oxygen barrier layer contains aluminum oxide.

8. (Original) The device of claim 1, wherein the second oxygen barrier layer contains at least one of aluminum oxide, titanium aluminum oxide and tantalum aluminum oxide.

9. (Original) The device of claim 1, wherein the distance between each side surface of the contact plug and the second oxygen barrier layer is between 0 nm and 100 nm inclusively.

10. (Original) The device of claim 1, wherein the capacitive insulating film includes at least one material selected from a group consisting $SrBi_2(Ta_xNb_{1-x})_2O_9$, $Pb(Zr_yTi_{1-y})O_3$, $(Ba_zSr_{1-z})TiO_3$, $(Bi_uLa_{1-u})_4Ti_3O_{12}$ (where $0 \leq x \leq 1$, $0 \leq y \leq 1$, $0 \leq z \leq 1$, $0 \leq u \leq 1$) and Ta_2O_5.